Anti-plagiarism Software – A tool to ensure quality research output

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Abstract:

[In this competitive age, consequent to the sudden increase of persons interested in doing research, the maxim, “publish or perish” is persistently threatening and building pressure on them. In a hurry to gain degree and get articles published, if not all, most of the researchers have taken to cutting corners which resulted in falsified research, fraudulent data and practice plagiarism because of which the quality of research output has taken a back seat. This research misconduct has proved costly for researchers in particular and the organization & the public in general. Also because of ignorance, sometimes the error of duplication of title or topic sprang up. However, even earlier to this, the problem of plagiarism was there but not as intense as it is now. In this regard, an attempt has been made here to explain what plagiarism actually means, the types of plagiarism, reasons for committing plagiarism, repercussions thereafter, Anti-plagiarism software used to curb the menace, present scenario of plagiarism, with concluding words.]

Keywords: Anti-plagiarism, ShodhGanga, iThenticate, Turnitin, Viper, Plagiarism Detection, Research misconduct.

Introduction:

Education is a system through which information and skills are acquired and knowledge is gained. The knowledge so gained is utilized for the development of society and the development of nation. Education makes the information or skills to flow from generation to generation which in turn helps in discovery of new things. Keen interest in any subject is a pre-requisite for anyone to go for a thorough formal higher education and research which leads to gaining more knowledge in that particular subject. Only then will they be able to write papers on their own with their own ideas, information and expressions.

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But, there are people who because of growing pressure, without effort, exceeding their capability, for instant gain, looks out to gain higher research degrees for the betterment of their future by committing literary theft i.e., they steal the literary contents of others, and without acknowledging the same, they write it in their research papers as they are their own creation. This unethical activity is called ‘plagiarism’ and is considered as the most serious offence in the academic field.

**Understanding Plagiarism and its History:**

According to Concise Oxford English Dictionary, the word ‘plagiarism’ means “to take and pass it off as one’s own”. Plagiarism is a Latin word, in Latin it is called “Plagiarius” which means "kidnapper, seducer, plunderer, one who kidnaps the child or slave of another," used by Martial in the sense of "literary thief" (http://www.etymonline.com/index.php?term=plagiarism).

Committing plagiarism is an age old problem and is also growing with time. Even before 1600 writers were encouraged to copy from others works. In later days after the invention of printing press, students used to copy literature from printed text books, journals etc., (Brian Hansen, 2003). But, now the focus has been shifted to technology facilitated plagiarism. Here, with the advent of ICT in 21st Century, the problem has become more and more alarming as most of the research works have been uploaded in the internet and thousands of other resources are easily available and accessible by any one, thus making plagiarism much easier. In the US itself many students and research scholars of reputed Universities are involved in plagiarism, thus tarnishing the good image of the Institution. On the other hand, the plagiarism also infringes the copyright of an individual.

**Types of plagiarism:**

Copying may be just a word or a phrase or a whole paragraph, but it amounts to plagiarism. Depending on the depth of stealing, the plagiarism is roughly divided into six types viz.,

1) Blatant Plagiaryism: The writer just copies the text without acknowledging the original author.

2) Potluck paper: The writer retains his original ideas but copies phrases from other sources and twist them so as to fit into his ideas.
3) Word switch: The writer here copies original text from other sources and alters keywords and phrases.

4) Mosaic (Labour of laziness): Here, the writer paraphrases most of paper from other sources and tries to fit in together than concentrating on preparing his own phrase.

5) Self-stealing: Here, the writer republishes from his own earlier papers which have already been published.

6) Ghost writer: The writer here writes for someone else.

   A Resourceful Citer is the one who while using full quotations and ideas of others properly acknowledges the same.

**Reasons for Plagiarism:**

There are various reasons for a person to commit plagiarism. Some of the important reasons are:

1) Lack of knowledge – The writer may not be having indepth knowledge of the subject in which he is doing research.

2) Poor research skills – The writer may be very poor in his general and research skills.

3) Lack of command over language – Even though the writer is interested in the subject, due to the lack of good command over English language may force him to go for plagiarism.

4) Lack of time for reading and understanding – Because of the writers pre-occupation or busy schedule, they may not get time for researching the resources, reading and understanding it before writing a research article.

5) Laziness – Inspire of the writers interest, the disinclination to the active involvement may also be the reason.

6) Fear of failure / Pressure to publish for career advancement – Because of the societal status gained through the job, and to maintain the same, the writer may be constantly under pressure to upgrade himself by writing articles, presenting papers etc.

7) Desire for instantaneous recognition – Recognition in any field is a slow and long process. Sincerity and dedication are key inputs. When a person rushes for instantaneous recognition, they commit plagiarism.

8) To influence others – Falsely boasting of themselves about the achievement, made through plagiarism. The main intention is to see that the professional colleagues recognize the publications and academic achievements.
**Plagiarism detection methods:**

There are two ways of detecting plagiarism. One is manual method and another is using Anti-plagiarism software.

The manual method involves substantial effort, vast reading of materials and excellent memory. Apart from this it also consumes precious time. Only the subject expert will do the job easily. Even then, when it requires too many documents to be traced and compared, it will become practically impossible.

Hence, the best way of curbing such unethical practices of plagiarism is by using Anti-plagiarism software. The first such software introduced was in Harvard University in the year 1993. Since then many such softwares have been developed by software companies in the West. It is more efficient, faster and easier to detect plagiarism. The thesis or dissertation (Word, PDF or an HTML form) which has to be checked for plagiarism is uploaded into the software. First, the document is scanned, then it matches the same with the databases which contains thesis/dissertation, also it cross-checks with proceedings of conference/seminar, research papers/reports, e-books, e-journals, institutional repositories and other web resources, which are already available on the internet.

The following portions are usually excluded from the scanning:

1) Quotations  
2) Phrases  
3) Sources – Word count/Percentage  
4) Small matches – Removes trivial matches  
5) Abstracts  
6) Methodology/materials  
7) Bibliography

Most importantly the following are not at all accepted for scanning:

Graphs, Images, Photographs, Water marks, Light colouring, Similar fonts used for sub-heading.

Finally, the plagiarized part of the work is detected and it is highlighted, only then the literature / research article is alleged to have been plagiarised.
**Report generation – viewing mode:**

- A report is generated showing the percentage of plagiarism committed.
- It also gives the breakdown of each sources from where the literature is copied.
- The text which has been plagiarized is shown side by side with that of the original one.
- Summary report is also generated.
- One can also download the summary report.

**Commercial / Open source Software:**

There are some plagiarism detection softwares which are commercially available and there are softwares which are available as on open source. Some of them are mentioned below.

1) Turnitin, California - Commercial
2) iThenticate, California - Commercial
3) WriteCheck, California – Open Source
4) Plagiarism.org, California
5) Viper, England – Open source
6) PlagAware, Germany - Commercial
7) PlagScan, Germany - Commercial
8) Urkund, Sweden - Commercial
9) Docoloc, Germany - Commercial
10) Plagiarism Checker X, New York – Open Source
11) Plag Tracker - Commercial

The salient feature of iThenticate software is that it supports upto 30 languages.

**Shodhganga & Shodhgangotri:**

In order to avoid such things in the initial stage itself, and also for other healthy purposes, as an initiative, the UGC provided a platform which helps the research students, covering all Universities within India, to deposit their Ph.D. theses in electronic form and the same is made available for the academic community including research scholars in open access. This initiative is called “ShodhGanga”. In short, “ShodhGanga” is a repository of e-theses and e-dissertations.

In a similar manner, another initiative called “ShodhGangotri” is launched wherein the synopsis submitted by the research scholars to the Indian Universities,
having regard to the registering for Ph.D. programmes were uploaded. In short, “ShodhGangotri” is a database of research synopsis.

In addition to check plagiarism and duplication of titles, floating of such programmes also reveals the trends and directions of research works being carried out in India.

**Vidyanidhi:**

In Sanskrit, ‘Vidyanidhi’ means ‘Treasure of Knowledge’. It is a national repository of e-theses where number of Universities and academic Institutions across India are participating. Here one can access the Ph.D. theses. This was started by Mysore University under Ford Foundation.

**How to avoid plagiarism:**

1) When some one’s ideas, quotes, paraphrase are used, then it should be acknowledged to the original authors.

2) The fact that other sources support your ideas should be highlighted.

3) Citations make the ideas stronger and more valid.

4) A good paraphrasing makes the ideas of original source fit smoothly into your paper, thus emphasizing more relevant points and leaving out unwanted information.

**Usefulness of citations:**

There are numerous advantages when the referred sources are cited viz.,

1) It helps others to find original resources in turn helps in finding more information on the topic.

2) To verify contents and quotations

3) It shows the amount of research work the writer has done

4) It supports the writer’s arguments

5) It strengthens the research work

**Repercussions of Plagiarism:**

If found guilty of plagiarism, the serious repercussions may be:

1. Revocation of Ph.D. / Retraction of research paper

2. Immediate failure of research
3. Black listing of Scientists/Institutions
4. Subject of discussion in respective forums
5. Punishable and even would be fined by the court of law
6. Value, quality of research work would be questionable
7. It also results in ‘ripple effect’ of damages to the individual and organization

**Present scenario of research misconduct:**

1) According to the report conducted by Royal Society on “Knowledge, networks and nations: Global scientific collaboration in the 21st century”, there are currently over 7.1 million researchers in the world who are competing for their research articles to be published in Scientific and Technical Journals (compared to 5.7 million in 2002). Internationally the number of scientific publications has increased from 1.09 million in 2002 to 1.58 million in 2007 to 1.94 million in 2010 i.e., there is an increase of 77% in publication since 2002.

2) The Wall Street Journal and Thomson Reuters complied data from 11,500 peer reviewed scholarly journals and found that there is an increase of 44% in publication of papers since 2001. And retracted papers due to plagiarism has increased 15 fold since 2001.

3) In a survey conducted by Office of Research Integrity in 2008 found that the research misconduct has increased from 33% to 67%.

4) In a survey conducted by iThenticate in 2011, nearly 200 of its customers across five industry types (i.e., Government, Non-profit, Publishing, Research & Scientific, and Technical & Medical fields) reported the capital loss for the organization. Among them, 60% reported upto $10,000 loss and 10% reported upto $50,000 loss. These losses were in the form of filing lawsuits, legal costs, investigation costs, loss of grant money, travelling expenses, sitting fee for investigation committee of eight individuals, apart from other indirect costs.

**Conclusion:**

Plagiarism is considered as an act of fraud and research misconduct. It is also an infringement of copyright Act. Today, it has gained so much of importance that it has become imperative to address it at the levels of schools and colleges itself by
authorities and teachers. Moreover, awareness programs and its consequences should also be given to researcher and faculty at higher education.

Apart from the above, the plagiarism tools also provide an opportunity for both the Researcher as well as the Supervisor to:

Rectify the statements/quotes, rectify the citations, trace the original contents and authors, reduce the percentage of similar content, avoid plagiarism towards improving originality of the research.

Finally, even though there is no clear boundary between the original and plagiarized work, it is important to fight against plagiarism, and all said and done, the main aim is to improve the originality of the research output.

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